

## CLAIMS

What is claimed is:

1. A wire comprising a sheath encapsulating a core having a core composition, the core composition comprising a combination of graphite and one or more compounds of potassium, the combination of graphite and compounds of potassium in the core composition not exceeding approximately 5% by weight.
2. The wire of Claim 1, wherein the compounds of potassium comprise  $K_2 MnTiO_4$  and  $K_2 SO_4$ .
3. The wire of Claim 1, wherein the combination of graphite and one or more compounds of potassium in the core composition is selected from the range of about 0.3% to about 5% by weight.
4. The wire of Claim 3, wherein the compounds of potassium comprise  $K_2 MnTiO_4$  and  $K_2 SO_4$ .
5. A process of manufacturing a metal-cored wire comprising:  
shaping a metal sheath into a fillable shape;  
filling the sheath with a core composition to form a core, the core composition comprising a combination of graphite and one or more compounds of potassium, the combination not exceeding approximately 5% by weight; and encapsulating the core by the sheath to form a metal-cored wire.

6. The process of Claim 5, wherein the compounds of potassium comprise  $K_2MnTiO_4$  and  $K_2SO_4$ .
7. The process of Claim 5 wherein the core composition is a powder.
8. The process of Claim 5, wherein the combination is selected from a range of about 0.3% to about 5.0% by weight.
9. The process of Claim 8, wherein the compounds of potassium comprise  $K_2MnTiO_4$  and  $K_2SO_4$ .